

WHAT IS CLAIMED IS:

1. A deposition source installed in a chamber, heated by applied electric power to transfer heat to a vapor deposition material received therein and applying a vaporized deposition material generated therein to a substrate to form deposition organic
5 electroluminescent layers onto the substrate, comprising;

a vessel consisted of a top plate on which a vapor efflux aperture is formed, a side wall, and a bottom wall;

a heating means for supplying heat to the deposition material received in said vessel, said heating means being capable of moving vertically; and

10 a means for moving said heating means, said moving means being operated in response to the signal of a sensing means on varied distances between said heating means and the surface of said deposition material, whereby said heating means is moved downward by said moving means to maintain the distance between said heating means and the surface of the deposition material at an initially-set value when the thickness of the deposition
15 material is decreased.

2. The deposition source according to claim 1, wherein said sensing means and said heating means are mounted to said top plate, said moving means comprises a number of cylinders supported by said chamber and for moving said top plate vertically with having rods fixed to said top plate; and a control means receiving a signal from said sensing means
5 and controlling said cylinders in response to the transmitted signal, whereby said cylinders make said top plate move downward along said side wall when the distance between said top plate and said deposition material is larger than the initially-set value.

3. The deposition source according to claim 2, wherein each of said cylinders is installed
10 at the outer side which does not correspond to said vapor efflux aperture formed on said top plate so that each of said cylinders does not affect the flow of vapor of said deposition material escaped through said vapor efflux aperture.

4. The deposition source according to claim 2, wherein said side wall has a number of
15 vertical grooves formed on the inner surface thereof, and said top plate has a number of protrusions formed on the outer circumference surface thereof, each of said protrusions has such a size that each protrusion can be received in each of said grooves so that each of said

protrusions of said top plate is moved along each of said grooves of said side wall when said top plate is moved vertically.

5. A deposition source installed in a chamber, to form deposition organic
5 electroluminescent layers onto the substrate, by applying a vaporized deposition material generated therein to a substrate, by transferring heat to a vapor deposition material received therein, heated by applied electric power, comprising;

a vessel consisted of a top plate on which a vapor efflux aperture is formed, a side wall, and a bottom plate, said bottom plate being capable of moving vertically;

10 a heating means for supplying heat to said deposition material received in said vessel;
and

a means for moving said bottom plate, said moving means being operated in response to the signal of a sensing means on varied distances between said heating means and the surface of said deposition material, whereby said bottom plate is moved upward by said
15 moving means to maintain the distance between said heating means and the surface of the deposition material and the distance between said substrate to be coated and the surface of

the deposition material at an initially-set value when the thickness of the deposition material is decreased.

6. The deposition source according to claim 5, wherein said moving means comprises

5 a cylinder supported by said chamber and for moving vertically said bottom plate with having a rod fixed to said bottom plate; and

a control means receiving a signal transmitted from said sensing means mounted to said top plate and controlling said cylinder in response to the transmitted signal, whereby said cylinder makes said bottom plate move upward along said side wall when the distance
10 between said heating means and the surface of said deposition material is larger than the initially-set value.

7. The deposition source according to claim 5, wherein said side wall has a number of vertical grooves formed on the inner surface thereof, and said bottom plate has a number of
15 protrusions formed on the outer circumference surface thereof, each of said protrusions has such a size that each protrusion can be received in each of said grooves so that each of said

protrusions of said bottom plate is moved along each of said grooves of said side wall when said bottom plate is moved vertically.

8. The deposition source according to claim 5, wherein said sensing means is an optical
5 sensor.

9. A deposition source installed in a chamber, to form deposition organic
electroluminescent layers onto a substrate, by applying a vaporized deposition material
generated therein to the substrate, and by transferring heat to a vapor deposition material
10 received therein, heated by applied electric power, comprising; a top plate on which a vapor
efflux aperture is formed, a side wall, a bottom plate, a heating means for supplying heat to
the deposition material corresponding to a certain position, a sensing means for sensing
change of the height of the deposition material, and a controlling means for controlling said
heating means selectively in response to a signal of said sensing means.

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10. The deposition source according to claim 9, wherein said heating means is a number of coils wound on the outer circumference surface of said side wall so that electric power is applied to each coil by controlling said controlling means according to the height of the deposition material.

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11. The deposition source according to claim 10, wherein the uppermost coil of said coils coincides with the surface of said deposition material received at the maximum height and the lowermost coil coincides with the surface of said bottom wall.

10 12. The deposition source according to claim 10, wherein said controlling means controls said coils by applying electric power to only the coil adjacent to the surface of said deposition material when the height of the deposition material is changed during the deposition process.

15 13. The deposition source according to claim 9, wherein said bottom wall has a groove formed on the lower surface thereof and a coil is received in said groove so that the heat

generated at said coil is transferred to the deposition material adjoining the surface of said bottom wall when electric power is applied to said coil.

14. The deposition source according to claim 13, wherein said groove formed on said
5 bottom wall is in the direction of width or length of said bottom wall, and is consisted of a number of linear portions and connection portions connecting two neighboring linear portions, whereby said groove is formed on the entire surface of said bottom wall.

15. The deposition source according to claim 9, wherein said deposition source further
10 comprises a casing provided at the outer portion of said side wall for preventing heat generated at said heating means from transferring to the exterior.

16. The deposition source according to claim 15, wherein the space between said side wall and said casing is filled with a thermal insulation material.

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17. The deposition source according to claim 15, wherein said casing is made of oxide or

nitride of aluminum (Al), zirconium (Zr), silicon (Si), or yttrium (Y).

18. A deposition source installed in a chamber, to form deposition organic electroluminescent layers onto a substrate, by applying a vaporized deposition material
5 generated therein to the substrate, and by transferring heat to a vapor deposition material received therein, heated by applied electric power, comprising; a top plate on which a vapor efflux aperture is formed, a side wall, and a bottom plate, said vapor efflux aperture having a length which is longer than, or the same as, the width of said substrate to be coated with a deposition organic electroluminescent layers.

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19. The deposition source according to claim 18, wherein said deposition source is capable of moving to the horizontal direction with respect to said substrate.

20. The deposition source according to claim 18, wherein said substrate is capable of
15 moving to the horizontal direction with respect to said deposition source.

21. The deposition source according to claim 18, wherein said deposition source has the upper portion and the lower portion, said upper portion has a sectional surface area smaller than that said lower portion.

5 22. The deposition source according to claim 18, wherein said deposition source is made from a material having thermal capacity which is higher than said deposition material.

23. The deposition source according to claim 22, wherein said deposition source is made of oxide or nitride of aluminum (Al), zirconium (Zr), silicon (Si), or yttrium (Y), or
10 composite material of at least two above.